



STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

Northwest Regional Office • 3190 160th Avenue SE • Bellevue, Washington 98008-5452 • (425) 649-7000

March 7, 2002

**CERTIFIED MAIL**  
7000 0520 0016 4783

Ms. Susan Roth  
6236 27<sup>th</sup> Avenue NE  
Seattle, WA 98115-7114

Dear Ms. Roth:

RE: The Additional Work/Modification of the Soil Vapor Sampling and Analysis Plan, Terminal 91 Tank Farm Site. Agreed Order No. DE 98HW-N108

The Draft Soil Vapor Sampling and Analysis Plan modification correspondence prepared for the Terminal 91 Site PLP Group by Roth Consulting was received by the Department of Ecology (Ecology) on March 4, 2002. This modification to this work plan addresses the portion of the Port of Seattle (POS) Terminal-91 facility where RCRA corrective action is being performed pursuant to the Model Toxics Control Act Agreed Order No. DE 98HW-N108.

Ecology agrees with your additional work/modifications based on the following understandings:

- Sumps were identified within the Seafood Processing Building (SPB) during the February 26, 2002 site visit/meeting. The sumps are a potential conduit for soil gas, and in certain cases groundwater itself, to enter the building and this has not been assessed to date. One of the sumps, e.g., is deep enough to be at or below the seasonal groundwater level. There was some discussion about abandoning the sumps by filling with concrete rather than sampling, but no final decision has been made. At some time in the future, this pathway will need to be addressed.
- LNAPL analysis is not proposed by the PLP Group. The PLP Group has expressed their position that the soil gas sampling and analysis addresses the potential for effects on the indoor air quality. Ecology still feels that there is value in knowing what the LNAPL is composed of and would like to have it analyzed. The PLP Group has agreed to model groundwater to indoor air. This will enable the PLPs and the Department to determine the potential for shallow groundwater -- without LNAPL overlying it -- to volatilize and infiltrate into the SPB. However, according to your draft correspondence, the portion of the building that lies above the LNAPL will not be modeled with nonaqueous inputs, and as a result the soil gas

Jan 17  
UA 2917  
3/7/02  
6a

RECEIVED  
MAR 18 2002

FILE COPY

USEPA RCRA



3012595

measurements taken in this area will not be able to be confirmed by a *second line of evidence*. Data collected at another Philip Services Corp. site assessment indicates that indoor air samples had levels of the chemicals that were two or more orders of magnitude above what was predicted by the Johnson Ettinger model after inputting soil gas measurements. This is one of the reasons why Ecology is assessing other methods of checking indoor air contaminant values predicted by modeling which has used measured soil gas concentrations as inputs.

Although the Department considers the lack of good information on the composition of the LNAPL a remaining data gap, this issue does not need to be resolved prior to the second round of soil gas sampling. Ecology would like to receive a sample of the LNAPL, and have it analyzed at the Manchester Laboratory at some time in the near future. This information will be useful in the overall site assessment, not just the indoor air pathway analysis. Ecology wants to continue to work with the PLP Group on this issue.

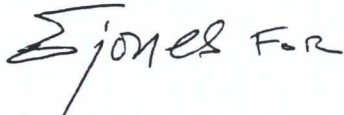
- As noted below, due to the evolving nature of these assessments, the indoor air quality pathway (vapor intrusion) assessment for the SPB may require additional work depending on the results from the sampling proposed within the original work plan and as modified by you March 4<sup>th</sup> correspondence.

The PLP Group has expressed concern that Ecology's positions have changed somewhat since the approval of your May 15, 2001 "Draft Soil Vapor Sampling and Analysis Plan" for assessing vapor intrusion at the site. Ecology has not tried to hide the fact that different opinions exist within Ecology, as well as at EPA and in the scientific community, regarding what may constitute sufficient screening to delete this pathway from further consideration. So, while your concerns are reasonable, from our perspective many of the changes in direction we have advocated have been unavoidable. The science and methodology of assessing vapor intrusion remains in flux. The lengthy time it has taken for EPA to issue its Environmental Indicator Guidance document (draft; October 2001) for this pathway is a testament to the difficulties which have existed, and still exist, in obtaining consensus on a "one-size-fits-all" approach to estimating indoor air concentrations from sources in the saturated zone. Ecology is also still developing our own guidance for this pathway. So, although Ecology may have recommended certain approaches to assessment in mid-2001, as EPA and the states have gained more insights into this pathway, some of those approaches no longer seem sufficiently conservative. This may be the case in the future as well; approaches we agree to now may be seen as flawed in the future as more information is gained on the pathway and refinements are made to the modeling tools. In summary; Ecology hears and understands your concerns and frustrations, and we want to continue working with you to eliminate this pathway at the Terminal 91 Tank Farm site.

Ms. Susan Roth  
March 7, 2002  
Page 3

If you have any questions or comments, please contact me at the Department of Ecology Northwest Regional Office by phone at (425) 649-7280 or by email at [gtri461@ecy.wa.gov](mailto:gtri461@ecy.wa.gov).

Sincerely yours,

A handwritten signature in black ink that reads "Ed Jones" followed by a stylized "F.R." or "F.R.".

Galen H. Tritt  
Hazardous Waste and Toxics Reduction Program

GHT:ct

cc: Julie Sellick, Ecology - NWRO  
Ed Jones, Ecology - NWRO  
Hun Seak Park, Ecology - HQ  
Michael Kuntz, Ecology-HQ  
Jan Palumbo, EPA Region 10  
HZW file 6.2